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# PACIFIC FISHERMAN

Bumble Bee Tuna—  
A Quality Product  
Provides and  
Sustains Employment

**Fishing is a world industry; and the Pacific is half the world**



**FINAL INSPECTION** of Bumble Bee tuna as it emerges from the Pak-Shapers where the cans are filled is entrusted to these women, who correct any imperfections.



A MILLER FREEMAN PUBLICATION





**FOR THREE-SCORE YEARS AND TEN** the Columbia River Packers Association, Inc., has been canning fish at this location at Astoria, Ore. The plant, constantly expanded and continuously modernized, provides the largest industrial payroll in the community which was the first American foothold on the Pacific.

# "Bumble Bee" Tuna—

## *The Story of a Business*

## *Of 3-Score Years and 10*

● At the mouth of the Columbia River, where Americans first established themselves upon the Pacific, is a tuna packing enterprise notable for the year-round contribution it makes to the economy of the community, and for the degree to which quality control is a factor in its operating practices.

The plant is the Elmore Cannery of the Columbia River Packers Association, Inc., at Astoria, Oregon.

In these pages *Pacific Fisherman* reports in particular upon these two phases of the "Bumble Bee" tuna canning: (a) how it maintains almost continuous canning in an area where tuna fishing is highly seasonal and only occasionally actually productive; (b) how quality control is an integral, essential element of the enterprise, the projection into operating practice of the modern merchandising which characterizes the company's selling and has made its brand a ranking name among fish products.

● Columbia River Packers Association, Inc., was formed at Astoria in 1887, only 23 years after salmon canning began, as a merger of eight packing firms, of which S. Elmore was one, with a cannery on the site from which the present central cannery of the company's Columbia River operations takes its name.

At that time, and for 50 years thereafter, salmon was the company's prime business.

However in 1937, three years after runs of Albacore occasionally occurring off the Oregon and Washington coasts had been found to have commercial importance, the C. R. P. A.

entered the tuna canning business actively. Prior to that time it had engaged in buying and shipping Pacific Northwest Albacore to California canneries.

The tuna cannery was constructed immediately to the east of the great salmon cannery, and so arranged that they could share certain facilities, notably the retorts and canned goods warehouses.

As deliveries of tuna frequently arrived in greater volume than any economically profitable cannery could process properly, large freezing and cold storage facilities were built in connection with the company's Hawthorn cold storage plant east of the



# Tuna Comes from Three Sources

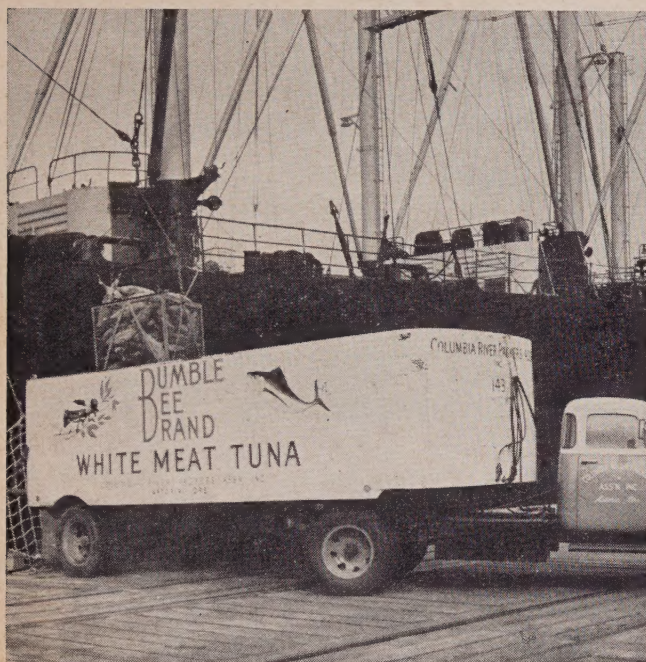
combined canneries.

This was at a time when the steady rise of Albacore fishing off Oregon and Washington led to the construction of numerous tuna canneries, particularly on the Columbia River, Grays Harbor and Puget Sound. Of them all, the Elmore plant of Columbia River Packers Association, Inc., was by far the largest.

The rising tide of North Coast Albacore fishing crested in 1944, when fishing was phenomenal. From there occurrence of Albacore shifted and availability of the species to fishing vessels based in the Pacific Northwest

## DIRECT DELIVERY

Pacific Northwest Albacore fishing boats discharge locally-caught tuna at the CRPA plant, only 10 miles from open sea.



## FROZEN IMPORTS

Frozen tuna from Japan is unloaded at Astoria for delivery to the cold storage plant. Supply thus maintained enables the CRPA cannery to operate on a year-round basis, despite seasonal character of the local fishery.

canning entirely; some continue to can a little tuna, when it came at all.

Management of the Columbia River Packers Association, Inc., took stock—of its investment, its responsibility, and the alternatives with which the company was faced.

Here was a great tuna cannery, with its auxiliary cold storage. Should they be closed and liquidated? If so, what of the people who worked there? What of the reduced catch of Albacore? Where would the fishermen be able to sell it?

declined and became highly variable. The season, when it was a season, was short—August, September, over by mid-October. The fleet tried hard, but the run which was flush from 1936 to 1946 has not since returned to North Coast waters in volume; although the fleet of Albacore boats operating from Southern California for the past few years has found the best fishing in history.

The Albacore, the "Longfin" tuna from which all "White meat" tuna must be packed, is a notorious shifter. In 1925 he disappeared from California waters for almost 20 years.

● Drastic decline of the Albacore fishery was a heavy blow to Oregon and Washington operators, fishermen and cannery workers. Some plants failed; others withdrew from tuna

## COASTAL STATIONS

afford discharge points for the Pacific Northwest fleet during the short tuna season. Fish delivered at these points convenient to the fishing areas are iced thus in insulated trucks and rushed to Astoria overnight for canning next day.





# Two Key-to-Quality Steps in

## FEEDING

the Pak-Shaper, the remarkable machine which puts the clear loins of tuna in the cans for fancy pack. On the feeder, her care and experience rests much of the responsibility for appearance of the product reaching the consumer.

Was there an alternative? Was there another source of tuna from which fish could be secured in sufficient volume to maintain operation when local deliveries were not available? After all, the United States fleet had never been able to catch all the Albacore the American market wanted.

By the time the low point had been reached in the Oregon - Washington Albacore fishery the war was over and Japan was again producing Albacore, as well as the "light meat" tuna species. The United States was the principal market for canned tuna in the whole world. Obviously, Japan again would be selling tuna to the American consumer. If it came canned, only the Japanese profited. If it came frozen, to be canned here during periods when local deliveries were insufficient to maintain cannery operations, then the plant workers had a year-round payroll and the American fishermen had a home market in the short season when the variable Oregon-Washington Albacore run was available to them.

This was the course adopted by the Columbia River Packers Association, Inc., the course which has kept its big tuna cannery active the year-round, save for a few weeks' overhaul period during the early salmon season; the course that provides the largest payroll in Astoria and its vicinity, which would be a bleak area without it.

## Not Without Criticism

● It would be unrealistic not to acknowledge that the course of the Columbia River Packers Association, Inc., in using imported tuna to supplement domestic supplies, and to permit it to use its plant and maintain a consistent payroll while building an increasingly growing business, has subjected the company to criticism from American fishermen. This criticism, which is shared by all American packers using imported raw material, argues that economic problems of the United States fleet require tuna imports be limited in quantity by quota and their cost raised by applying import tariff to frozen raw materials.

To this the Columbia River Packers Association through its president, T. F. Sandoz, responds with these points:



1. Imports of Albacore are necessary to meet the requirements of the American market. "For the past five years domestic production of Albacore has been less than half the amount the United States market consumed."

2. "If we must import tuna, it is preferable to import frozen round tuna and process it here."

3. "Imports of frozen round tuna are landed in this country at costs at least equal to, and generally higher than, prices paid for comparable items landed by American fishermen." This is possible economically because the imported tuna generally yield larger recovery in cases per ton of raw material. This is due to the larger average size of the individual fish, which gives larger recovery; and because, having been bled upon catching, and being painstaking handled, there is less waste in preparing them for the can."

4. Tuna canned from imported raw material is distributed at prices and under practice which keep it from being a market-disturbing factor.

5. Furthermore, actual experience has proven that this policy has enabled the company to maintain a market for

American fishermen's catches of Albacore tuna taken from central California north off the coasts of Oregon and Washington, which in the past two years amounted to a sizable production.

6. It is also the company's experience to date and prediction for the future that the growth which has taken place in the consumption of canned tuna in this country since World War II will continue and that the American market will require the total production of both the American and Japanese tuna fleets. The problem at the present time is to establish the market at a price level which will give all factors a fair return.

With the company's increasing need for additional tuna, in 1956 it acquired through merger Hawaiian Tuna Packers, Ltd. of Honolulu, which is supplied by the extensive tuna fishing operation adjacent to the Hawaiian Islands.

## Quality Control— An Essential Element

● Meticulous, systematic control of quality in its "Bumble Bee" tuna canning is an essential element in the



# Modern Tuna Canning Practice



company's management doctrine and operating practice.

Quality control begins with inspection at the time of purchase of the fish itself, whether it be in Japan or in the company's various receiving stations along the West Coast. The company also maintains a purchasing office and staff in Tokyo, where careful inspection and selection is made of all lots of tuna offered for purchase.

Deliveries to American stations, and the Columbia River Packers Association, Inc., buys Albacore as far south as San Francisco Bay, are packed in crushed ice immediately upon purchase and are run to Astoria by the company's own refrigerated trucks.

Significant steps in the quality control program after the tuna have been received at Astoria include:

**Storage temperature** — Frozen fish is maintained consistently at -17° F.

**Thawing** — Fish are thawed in running water from the Astoria's municipal system.

**Controlled cooling** — Pre-cooked tuna are cooled in a refrigerated room with air circulated by fans and controlled humidity, permitting precise

timing of the cooling operation and its meshing with cannery operation, regardless of external temperature and relative humidity. Condition is protected with bactericidal ultra-violet lights.

**Two-step preparation** — Heads, tails, fins and skin are removed from pre-cooked tuna at the head of the preparation lines. With this gross preparation done in advance, the women preparing the loins are assisted in the speed and quality of their work and the cleanliness and attractiveness of pack and plant as well are sustained.

**Quality through care** — Work studies show the women feeding the Pak-Shapers which fill the cans are important factors in pack quality; that the task is an exacting one; and that workmanship is improved by opportunity to examine the results of effort. Accordingly, each of the six filling machines in the C. R. P. A. tuna cannery has three women who are qualified as Pak-Shaper feeders; and they rotate their duties every two hours. Thus one is feeding the Pak-Shaper; one is checking the filled cans at the patching table; and one is carrying out such quality control steps as taking

## INSPECTION

of the prepared loins as they pass to the Pak-Shaper keeps workmanship at the high level required to meet the exacting requirements of **Bumble Bee** specifications. In canning, conscientious scrutiny is the price of quality.

average weight of contents of unopened cans and working in the laboratory where finished cans are continually under test to determine conformity with U. S. standards for canned tuna.

**Machines unhurried** — Operating speed of the Pak-Shapers, and of all subsequent operations in the Elmore Cannery production lines, is regulated to give optimum results. Thus the filling machines are operated at a speed less than their maximum capacity, with improved efficiency, to conform to the company's standards.

**Processing in coolers** — Operating practice at Elmore requires that all cans be processed in cooler trays after the manner standard in salmon canneries, thus insuring that all surfaces of the fish are protected by oil during retorting and subsequent washing.

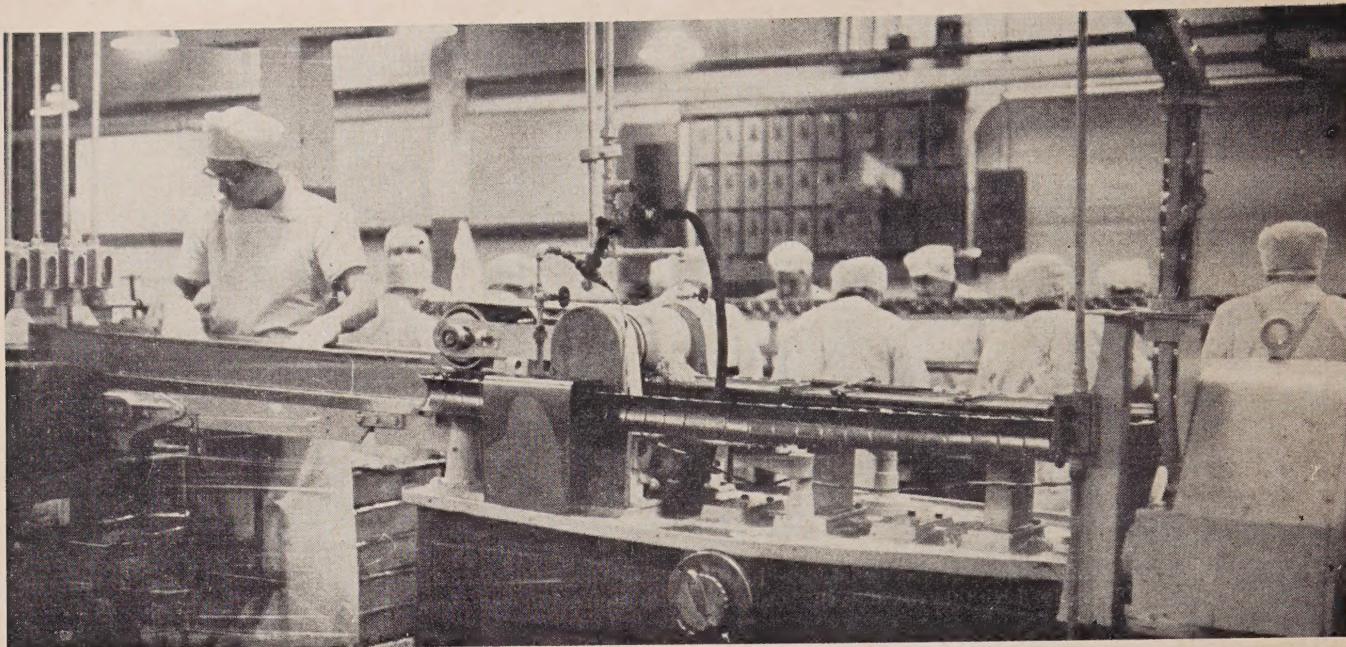
**Uniform vacuum** — To control vacuum in the cans, and to insure its uniformity, all cans are closed on vacuum sealers, six Continentals and one American.

**Cans double-washed** — Emerging from the vacuum machines, the cans are given a light washing; followed by another high-detergent washing of the processed cans as soon as they are drawn from the retorts.

**White uniforms** — To maintain uniformity and the most sanitary conditions, and as a service to their employees, the company provides and launders regularly white uniforms and fresh cotton gloves for its workers. The laundering of these gloves and garments is done in a modern, efficient laundry operated by the company at the plant.

**Staff inspection** — Perhaps no step in quality control is more important than the every-morning staff inspection. Each morning a committee of three, composed of key executives in production, research and sales, makes a critical examination of samples drawn from the pack of the previous day. This is in addition to the continuous inspection that goes on in the plant throughout the day, checking seams, pressing can contents, taking vacuum, and making visual and organoleptic examinations of the pack.





**Carruthers Pak-Shaper** is the machine which changed tuna canning by providing a sanitary, effective means of filling cans, rapidly, uniformly, giving precise weight and attractive appearance in the finished

product. The Pak-Shaper was invented and developed at Astoria by **E. H. Carruthers**, and was first used commercially in the Elmore cannery, where this latest model is one of five Carruthers machines.

### Some Features of "Bumble Bee" Cannery's Flow Sheet

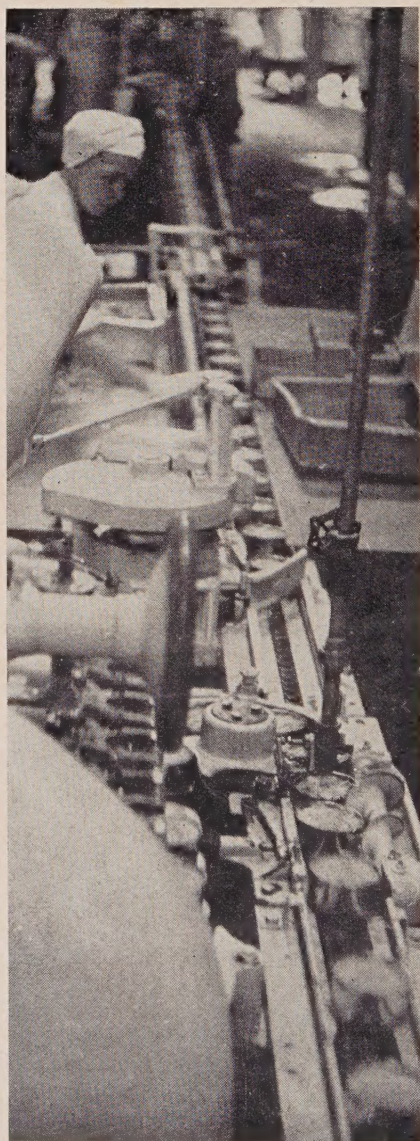
● Features in the flow of tuna through the Columbia River Packers Association, Inc., cannery have a number of aspects of interest. In general the flowsheet follows standard tuna cannery practice, but there are distinctions designed to meet the particular requirements of the local situation and company policies and standards.

**Cold Storage** — A few days before tuna stored in a room are to be drawn upon for canning Leland Canessa, superintendent, allows the temperature to rise from  $-17^{\circ}$  to about  $0^{\circ}$ . Frozen tuna are stacked in metal baskets which are handled by electric fork trucks powered with Exide storage batteries. Gasoline and oil cannot be tolerated in the cold rooms with the fish; nor motor fumes in the compartments. The fish-filled baskets are loaded onto cannery tender or trucks

**Checking the Machine**—A weighing machine in the foreground checks each can for full weight, and the woman gives the final visual inspection for character of fill before the can is closed. Thus the workmanship of the remarkable Pak-Shaper filling machine is constantly scrutinized.

for transport to the cannery, which draws about 75 tons of fish per day.

**Thawing, Pre-cooking, Cooling** — Metal fish baskets are raised and turned by hoist and hydraulic dumper until the fish slide onto a conveyor belt from which they are discharged into 14 thaw tanks where they thaw in running fresh water from the city mains. The tanks have slatted false bottoms which can be raised by hoist,



floating the thawed fish to the front of the tank, where they are pulled out onto a moving conveyor belt which carries them to the butchers. As the viscera are removed the fish are thoroughly washed and put into baskets in racks for pre-cooking, which is handled in six low-pressure cookers.

Pre-cooked tuna in racks are rolled to the refrigerated cooling room, four Frick fan and cooler units chilling the circulated air. Relative humidity is also controlled.

**Preparation of loins**—Mention has been made of the fact that the tuna go through a preliminary preparation process which removes primary waste such as heads, tails, fins and skins. The semi-prepared fish are then carried by conveyor to the women who prepare the loins. All work surfaces and utensils are stainless steel.

Waste removed in the final loin preparation goes through slots in the tables to the return run of the tuna conveyor belt. Finished loins are placed on a top belt bound for the Pak-Shapers. Material for blended pack goes to the return run of this belt, which delivers it to women who grade the material and blend it in proper proportions for the company's "Tuxedo" pack. Finely divided all-white meat is placed in stainless steel pans for grating and facing in that form.

**Filling**—The C. R. P. A. tuna cannery has seven lines: 4 half-pound Pak-Shaper fancy-pack lines; 1 half-pound Pak-Former chunk-style line; 1 quarter-pound hand-filled line; 1





**Attention** is vital where quality is a prime consideration. The Elmore cannery personnel is marked by a high order of intelligence and competence born of year-round employment and long experience in packing fish to high standards.

half-pound grated line with a Food Machinery filler.

Before the loins are fed into the Pak-Shapers they pass the scrutiny of two inspectors, plus the feeder. As previously mentioned, the speed-setting on the filling machines is conservative. Every can is checked on an automatic weighing machine, and the patching table gives meticulous attention to correcting any faults of fill as well as of weight.

**Oiling and Closing** — Where the packing medium includes vegetable broth, 10 cc. of the broth is metered first into each can. This is followed by a metered amount of oil. The can then has a 20-second conveyor run to the second oil-metering pump, from which it passes at once to the vacuum closing machine. As the oil is precisely metered to weighed cans, it is not necessary to decant them to established headspace. This also reduces the washing problem.

**Retorting** — From the cooler-loading machines where the salmon-style cooler trays are filled, fork trucks carry the retort cars to the battery of nine single-ended retorts fitted with Taylor and Foxboro instruments. After process cooking the cans are washed a second time while carefully conveyed flat in the coolers through a tunnel wash-and-rinser.

**Pack Examination** — There is no end to cutting and examination of the product in the "Bumble Bee" operation. In the technological laboratory in the plant technicians constantly press and weigh drained cans to pro-

vide the control required under the new Federal Tuna Standards, using a laboratory-type hydraulic press made by Luthi Machinery & Engineering Co., Gardena, Calif., for this specialized testing.

Moreover, cans are drawn periodically from all points in the canning operation for examination. For example, they may be taken from filled cases in the stacks and examined to detect rough-handling in the cooler unloader, labelling machine or caser.

**Hawaiian Operations** — The same

approach to quality control is maintained through the operations of the Honolulu plant. One of the prime considerations in the company's acquisition of this operation was the outstanding fresh quality of the tuna produced in the waters immediately adjacent to the Islands.

**Personnel** — One of the essentials that contribute to the efficiency and high uniform quality of product in both the Astoria and Honolulu plants is the exceptional skill and pride in workmanship of the cannery personnel. Many of the employees are closely identified with the fishery, being wives, daughters and sons of fishermen.

### The "Bumble Bee" Story

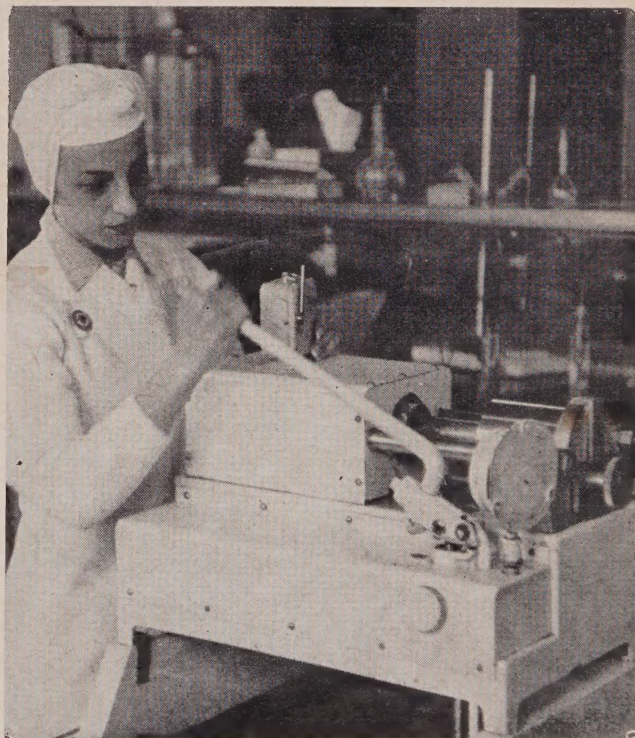
● This, then, is the Story of "Bumble Bee" Tuna, how it came into being when an exotic fish, the long-finned, white-meated, wandering Albacore appeared of a sudden in northern waters and then, after a few years of abundance, raced away again save for a few weeks of uncertain fishing in the early fall.

It is the story also of how a great tuna cannery has been kept in operation the year-round in spite of this short season of local production, continuing to provide a market for the Columbia River's resident fishermen when they find the Albacore, and the community's principal payroll even when they don't.

Further, it is the story of how a company whose fish canning history covers three-scores and ten maintains the good name of its premium brand by painstaking, persistent, penetrating quality control.

### LABORATORY EXAMINATION

of tuna samples is carried on continuously during all packing periods to assure conformity with U. S. tuna standards and the Bumble Bee quality specifications. Technologist using a Luthi tuna press.





**IS  
FOR  
BEST!**



best  
is for  
**DUMBLE  
BEE  
BRAND**  
seafoods

You can tell from the growing consumer acceptance that sent **BUMBLE BEE** sales to a new high in 1957. The final judge of taste and quality — the American Housewife — has picked **BUMBLE BEE** as **BEST**.

The **BUMBLE BEE** quality story, told and retold in the country's major markets, introduced new consumers to the **BEST**—**BUMBLE BEE BRAND**. And the story for 1958... Continuous advertising and vigorous merchandising to back America's quality line. Let's enjoy the **BEST** together.



**BUMBLE BEE SEAFOODS**  
the most complete line of seafoods  
under one packers label in America.

**COLUMBIA RIVER PACKERS ASSN., INC., ASTORIA, OREGON**

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